April 5, 2012

Mr. Brian D. Lorenc
GHB 630, LLC
c/o Golub & Company, LLC
625 North Michigan Avenue
Chicago, Illinois 60611

Re: Radiation Screening Summary Report – Geotechnical Exploration Oversight
410 E. Grand Avenue
Chicago, Illinois

Dear Mr. Lorenc:

GaiaTech, Incorporated (GaiaTech) recently completed radiation survey oversight during the geotechnical exploration of the property referenced above (the site). The site is located within the Chicago Environmental Permit Restriction area, which is related to the United States Environmental Protection Agency's (U.S. EPA's) investigation of a former Lindsey Light Company facility at a nearby property with thorium contamination. The oversight activities were performed as required by the City of Chicago Permit within the Streeterville Thorium Investigation Area. In accordance with U.S. EPA requirements, any subsurface activities performed within the Thorium Investigation Area require a radiation survey to identify potential thorium impacts. A copy of the permit is included as part of Appendix A.

Background

The 1.25 acre site is currently developed with an asphalt paved parking lot used by the Rehabilitation Institute of Chicago (RIC). The site is bounded by McClurg Court to the west, Grand Avenue to the south, Ohio Street to the north, and a parking structure/residential high rise to the east. The site is within the Streeterville Thorium Investigation Area.

According to various historical sources, the site and surrounding area were historically covered by Lake Michigan, and fill materials were used to raise the grade of the area in the late 1890s/early 1900s. The site was developed between 1906 and 1927 with a building of unknown use. Between 1927 and 1950, the site was redeveloped with structures occupied by Callaghan and Co. Book Bindery, Wholesale Growers and a restaurant/bakery. Between 1953 and 1974, RIC became the occupant of the former on-site buildings. Between the 1974 and 1988, the site buildings were removed and the site was developed into the current parking lot. The site is currently owned by GHB-630, LLC.

A Limited Phase II subsurface investigation was conducted in 2009. Soil samples and soil cuttings from borings advanced at the site were screened for potential thorium impact. The field measurements were approximately 5,100 to 7,700 counts per minute (cpm), which were within background conditions of the Streeterville area.

Scope of Work

GaiaTech and its subcontractor, Radiation Safety Services, Inc. (RSSI) performed the radiation screening oversight during the geotechnical exploration. The survey was conducted utilizing a gamma detector, under the

direction of a certified health physicist and oversight of GaiaTech's engineer.

The survey was conducted concurrently during a geotechnical study of the site soils. A total of six geotechnical borings were advanced between March 13 and 21, 2012. The location and placement of each boring was predetermined by the geotechnical engineering company. As needed, borings were adjusted to bypass any existing impenetrable concrete structures such as pile caps, caissons or other large foundation structures. The location of the borings is attached as Figure 1.

The soil borings were initially drilled using a flight auger or a hollow stem auger (HSA) and followed up with a direct push probe with a split spoon sampler attachment. Generally, fill materials were found to depths of 15 to 22 feet below ground surface (bgs). Native soils encountered after the penetration of the fill materials were observed to consist of gray sand or brown/gray silty sand materials. Groundwater was encountered at a depth of approximately 8-12 feet bgs, with the exception of BH-1, where groundwater was encountered at 15 feet. As part of the geotechnical study, fill samples were collected with 2–inch diameter split spoons at 2-foot intervals. Prior to the driller handling the samples for the geotechnical investigation, the soil cuttings and fill material retrieved in each split spoon were surveyed with the gamma meter.

Downhole gamma logging survey was also conducted at the boring locations to further evaluate fill materials above the water table (to protect the survey instrument from water damage). For the downhole survey, a 3-inch diameter schedule 40 PVC casing was installed into the borehole and, if a HSA was used, the auger was removed to facilitate downhole logging for thorium impact. After the installation of the casing, surveying was accomplished by lowering the gamma meter to the bottom of the casing and slowly raising the meter and recording the readings in a field notebook. Readings were collected at 12-inch intervals using 1-minute time interval to obtain stable meter readings, following the USEPA protocols. If no elevated readings were noted, the casing was pulled from the hole for reuse. The remaining fill materials below the water table were screened directly from the split samples collected for geotechnical purposes. Each interval collected was record in a field notebook. When geotechnical borings were completed and the holes were patched with asphalt.

The two gamma meters were utilized for the survey. The downhole survey was performed utilizing a Ludlum Model 2200 meter with an unshielded Ludlum Model 44-10 (2 x 2) thallium doped sodium iodide gamma scintillation detector/probe. The soil cuttings and split spoon samples were surveyed with a Ludlum Model 193 with a Ludlum Model 44-10 (2 x 2) shielded probe. Each meter was calibrated using a Ludlum 500 Electronic Pulse Generator. Calibration records for each meter are attached under Appendix A.

Prior to the survey, site and location specific background was established. The Ludlum 2200 established a downhole background level of 2,612-3,825 cpm, while the Ludlum 193 established a background level of between 2,000-3,000 cpm. If field screening readings were three (3) or more times in excess of the general background conditions, a subsurface soil sample was collected by drilling a boring immediately adjacent to the suspect boring location and advancing it to just above the depth of the suspect reading. A split-spoon sampler was then advanced to the depth that corresponded to the elevated reading. Soils were retrieved from the sampler by the RSSI field technician, placed in a laboratory supplied container, transported under chain of custody procedures and analyzed at RSSI Laboratories in Morton Grove, Illinois. Soil cuttings generated during the drilling process from the suspect boring location were checked for elevated readings before returning them to the borehole. None of the soil cuttings exceeded background conditions. Both split spoon and downhole survey results are attached as Appendix B. A photographic summary is attached as Appendix C.

Survey Results

All field screening readings of the split spoon samples were within or below the established background levels. Downhole field screening readings were most within the background levels; however, only one location, BH-6 at 3-4 feet bgs, was observed to be in excess 10,000 cpm, which was about 3 times greater than background. The elevated reading was encountered immediately beneath a 1 foot thick subsurface concrete structure (possibly an old foundation or floor). Confirmatory soil sampling was completed immediately adjacent to the suspect boring location in order to confirm the presence of soil impact. The results of the laboratory analyzed sample indicated that the sample contained less than 1 picocurie per gram (pCi/g) of thorium daughter isotopes, which is below the U.S. EPA action limit of 7.1 pCi/g. The laboratory results are provided as Appendix D.

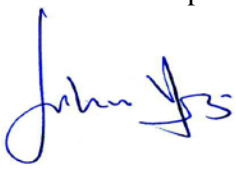
Conclusions

A survey of six (6) geotechnical borings was completed to determine the presence of any potential thorium impact at the subject site. An elevated gamma survey reading was noted at one boring location; however, laboratory analysis of soil from the area confirmed that the thorium concentration is below the U.S. EPA action level. Based on these results, there is no evidence of thorium impacts above the acceptable limits. GaiaTech recommend submit this report to the USEPA for information purposes only.

If you have any comments, please do not hesitate to contact me at 312.262-4330.

Sincerely,

GaiaTech Incorporated



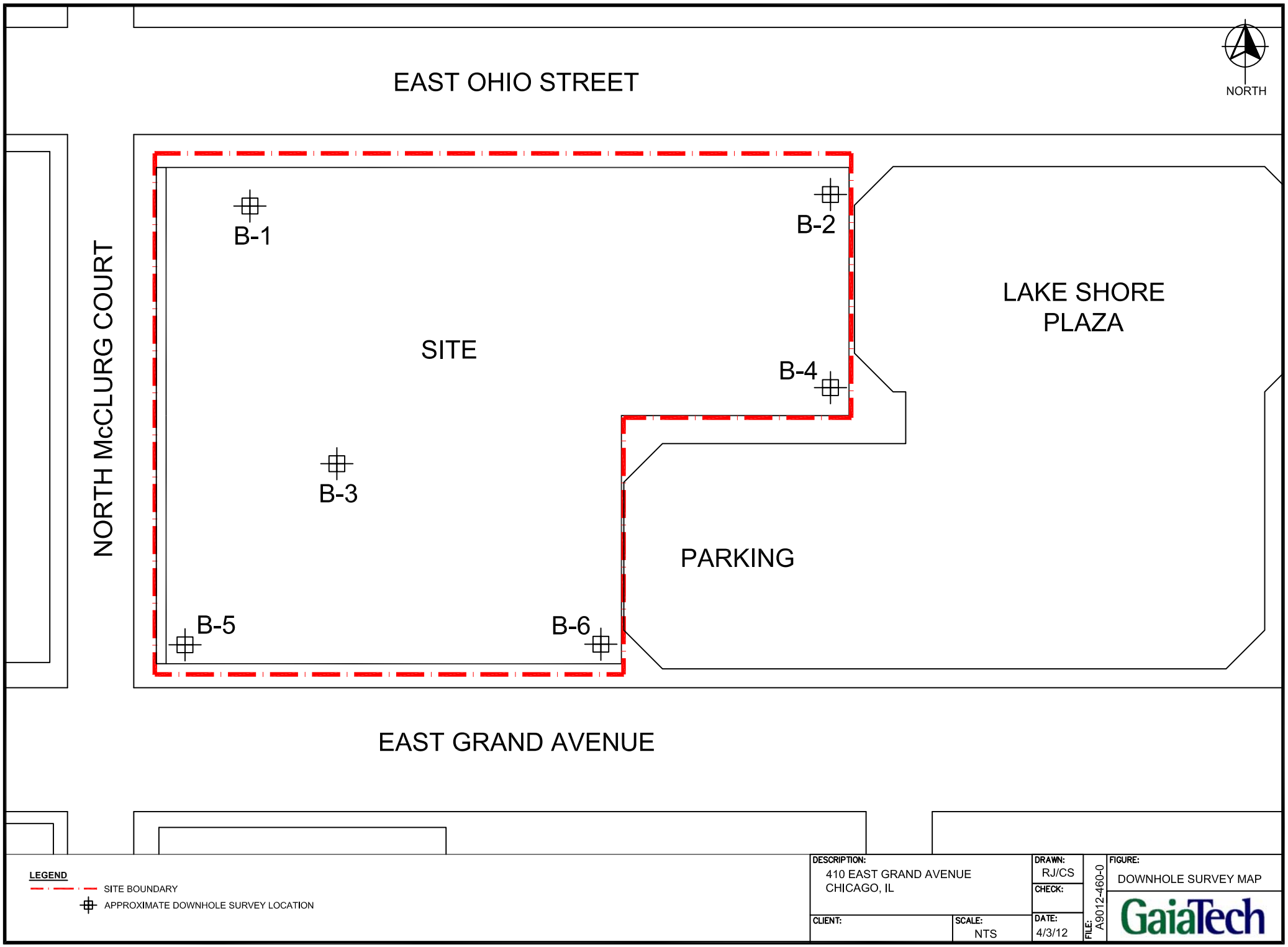
John H. Yang, PG
VP, Site Investigation & Remediation

Cc: Lee Golub, Golub & Company, LLC
Bruce Armstrong, Golub & Company, LLC
Daniel Swartzman, DiVincenzo Schoenfield Swartzman

Figures
Figure 1- Boring and Sampling Locations

Appendices
Appendix A – Instrument Calibration Logs & City Permit
Appendix B - RSSI Downhole Survey Results
Appendix C - Survey Photo Summary
Appendix D – Laboratory Soil Sample Analytical Results

Figure


EAST OHIO STREET
NORTH
NORTH McCLURG COURT
B-1
B-2
SITE
LAKE SHORE
PLAZA
B-4
B-3
PARKING
B-5
B-6
EAST GRAND AVENUE
LEGEND
SITE BOUNDARY
APPROXIMATE DOWNHOLE SURVEY LOCATION
DESCRIPTION:
410 EAST GRAND AVENUE
CHICAGO, IL
DRAWN:
RJ/CS
CHECK:
CLIENT:
SCALE:
NTS
DATE:
4/3/12
FILE:
A9012-460-0
FIGURE:
DOWNHOLE SURVEY MAP
GaiaTech

Appendix A

Instrument Calibration Logs

CITY OF CHICAGO DEPARTMENT OF ENVIRONMENT
FORM NO. DOE.PRPTY.02

City of Chicago
Richard M. Daley, Mayor

Department of Environment

Suzanne Malec-McKenna
Commissioner

2nd Floor
30 North LaSalle Street
Chicago, Illinois 60602-2575
(312) 744-7606 (Voice)
(312) 744-6451 (FAX)
(312) 744-3586 (TTY)
http://www.cityofchicago.org

Notice is hereby given that the site you have requested a permit for is recorded with the City of Chicago Department of Environment as potentially having environmental contamination on the site. This environmental contamination could present a threat to human health and safety in connection with work performed at the site, if proper safeguards are not employed.

A file containing detailed information regarding the aforementioned environmental contamination is available for review at the Department of Environment at 33 N. LaSalle St., Suite LL-120, Chicago, Illinois 60602 during normal business hours (8:30AM-4:30PM, Monday through Friday). Contact (312) 744-7606 for an appointment. This file must be reviewed and the remainder of this form completed before the permit can be issued if the ground is exposed or excavated. **Please note that for some locations, additional health and safety procedures may be required by law.**

Please complete the following:

I have reviewed and understand the documents, maintained by the Department of Environment, regarding environmental contamination of the site.
Further, I will ensure that all work at the subject site, and any monitoring required including but not limited to radiation monitoring, will be performed in a manner that is protective of human health and the environment and in compliance with all applicable local, state, and federal laws, rules, and regulations, especially those pertaining to worker safety and surveying conducted shall be provided to the Department of Environment and the United States Environmental Protection Agency within two (2) weeks of their completion. If any elevated levels of radioactive material are detected, I will immediately contact the United States Environmental Protection Agency at (800) 424-8802.

Permit No. or Developer Services No.
2012-5299

Date
3/7/12

Site Address
410 E. Grand
Chicago, IL

Work Location (Describe exact site location and attach map)
Six Geotechnical Borings within the site

Nature of Work
Geotechnical Borings

Expected Start Date
March 13, 2012

Applicant Name (print) John H. YANG

Signature John Yang Date 3/9/2012

Company Name GaiaTech Inc.

Company Address / Phone No. 135 S. LaSalle, Chicago, IL

Check if City Department Work ☐ Department Name

General / Prime Contractor GEI Consultant / GaiaTech
Include subcontractor information if applicable

Address 115 Lake Street, Libertyville, IL 60048

Phone No. 847-984-3401

Safety Officer / Phone No. Chia Tan / John YANG 312-262-4330

Radiation Contractor / Phone No. (if applicable) RSSI / 847-965-1599

Department of Environment Approval / Date Rahmatunisa Begum 3/9/2012

Please return this completed form to the City of Chicago Department of Environment at 33 N. LaSalle St., Suite LL-120, Chicago, Illinois 60602 during normal business hours (8:30 AM - 4:30 PM, Monday through Friday).

For DOE Use Only

NEIGHBORHOODS Alive!
BUILDING CHICAGO TOGETHER

Revised June 18, 2010

CHICAGO WORKS TOGETHER

CERTIFICATE OF CALIBRATION

RSSI

6312 West Oakton Street
Morton Grove, IL 60053-2723
Telephone: 847-965-1999
Fax: 847-965-1991
www.rssi.us

Certificate No. 046744

RSSI
Attention: Eli A. Port, Rso
6312 West Oakton Street
Morton Grove, IL 60053-2723

Manufacturer: LUDLUM
Model: 2200
Serial No.: 36762
Probe(s): Not Applicable

CALIBRATION DATA

SOURCE*	SCALE	FIELD (cpm)	READING (cpm)	FIELD (cpm)	READING (cpm)
5	x1	100	100	400	400
5	x10	1000	1000	4000	4000
5	x100	10 K	10 K	40 K	40 K
5	x1000	100 K	100 K	400 K	400 K
	SCALER	counts	counts	counts	counts
5	0 - 1000	50	49	500	496
5	0 - 100 K	5 K	4962	50 K	49637
5	0 - 1 M	500 K	496324		

If the accuracy of a scale is not within +/-10% but is within +/-20% a correction factor is supplied.

Check Source: Not Applicable

Temperature: 24 °C **Relative Humidity**: 63 % **Barometric Pressure**: 982 mbar

Comments: All scaler counts taken for one minute periods.
HV DIAL 392
THRESHOLD DIAL 110

Calibrated by: Timothy Hall **Date**: 6/24/11

Calibration Frequency: Annual **Recalibrate by**: 6/24/12

*SOURCE	1. Cs-137	2. Cs-137	3. Am-241	4. Cf-252	5. Electronic	6. Other
Manufacturer	U.S. Nuclear	Eon Corp.	Amersham	Amersham	LUDLUM	
Model	CCs-D-20E	64-764	AMC 13446	100	500	
Serial Number	69036EZ	722	7510 LA	FTC-CF-001	32789	
Activity	15 Ci	100 mCi	100 mCi	1801 µg	NONE	
Date	4/2009	5/2/78	6/3/84	10/8/85	11/18/09	

Calibration authorized by Illinois Department of Nuclear Safety License No. IL-01429-01 and meets the requirements of ANSI 323-1978 and MIL-STD-45662A.
Exposure rate traceable to NIST with MDH model 1015 SN 109 transfer instrument. Radcal Cert. of Conf. 20300.

PREVENTIVE MAINTENANCE PERFORMED

BATTERIES/CONTACTS CHECKED	✓	
HIGH VOLTAGE MEASURED	✓	1010 VOLTS
SENSITIVITY MEASURED	✓	10 mVOLTS
METER ZERO CHECKED	✓	
INSTRUMENT CLEANED	✓	

Lab Reference: 21

CERTIFICATE OF CALIBRATION

RSSI

6312 West Oakton Street
Morton Grove, IL 60053-2723
Telephone: 847-965-1999
Fax: 847-965-1991
www.rssi.us

Certificate No. 046741

RSSI
Attention: Eli A. Port, Rso
6312 West Oakton Street
Morton Grove, IL 60053-2723

Manufacturer: LUDLUM
Model: 193
Serial No.: 149080
Probe(s): LUDLUM 44-10, Sn: PR155592

CALIBRATION DATA

SOURCE*	SCALE	FIELD (cpm)	READING (cpm)	FIELD (cpm)	READING (cpm)
5	x1	200	220	800	800
5	x10	2 K	2.2 K	8 K	8 K
5	x100	20 K	22 K	80 K	80 K
5	x1000	200 K	220 K	800 K	800 K

If the accuracy of a scale is not within +/-10% but is within +/-20% a correction factor is supplied.

Check Source: Not Applicable

Temperature: 25.5 °C **Relative Humidity**: 63 % **Barometric Pressure**: 978 mbar

Calibrated by: Timothy Hall **Date**: 6/22/11

Calibration Frequency: Annual **Recalibrate by**: 6/22/12

*SOURCE	1. Cs-137	2. Cs-137	3. Am-241	4. Cf-252	5. Electronic	6. Other
Manufacturer	U.S. Nuclear	Eon Corp.	Amersham	Amersham	LUDLUM	
Model	CCs-D-20E	64-764	AMC 13446	100	500	
Serial Number	69036EZ	722	7510 LA	FTC-CF-001	32789	
Activity	15 Ci	100 mCi	100 mCi	1801 µg	NONE	
Date	4/2009	5/2/78	6/3/84	10/8/85	11/18/09	

Calibration authorized by Illinois Department of Nuclear Safety License No. IL-01429-01 and meets the requirements of ANSI 323-1978 and MIL-STD-45662A.
Exposure rate traceable to NIST with MDH model 1015 SN 109 transfer instrument. Radcal Cert. of Conf. 20300.

PREVENTIVE MAINTENANCE PERFORMED

BATTERIES/CONTACTS CHECKED	✓	REPLACED
HIGH VOLTAGE MEASURED	✓	888 VOLTS
SENSITIVITY MEASURED	✓	10 mVOLTS
METER ZERO CHECKED	✓	
INSTRUMENT CLEANED	✓	

REPAIR AND PART INFORMATION

Quantity	Description
2	D Batteries

Lab Reference: 4

Appendix B

RSSI Survey Results

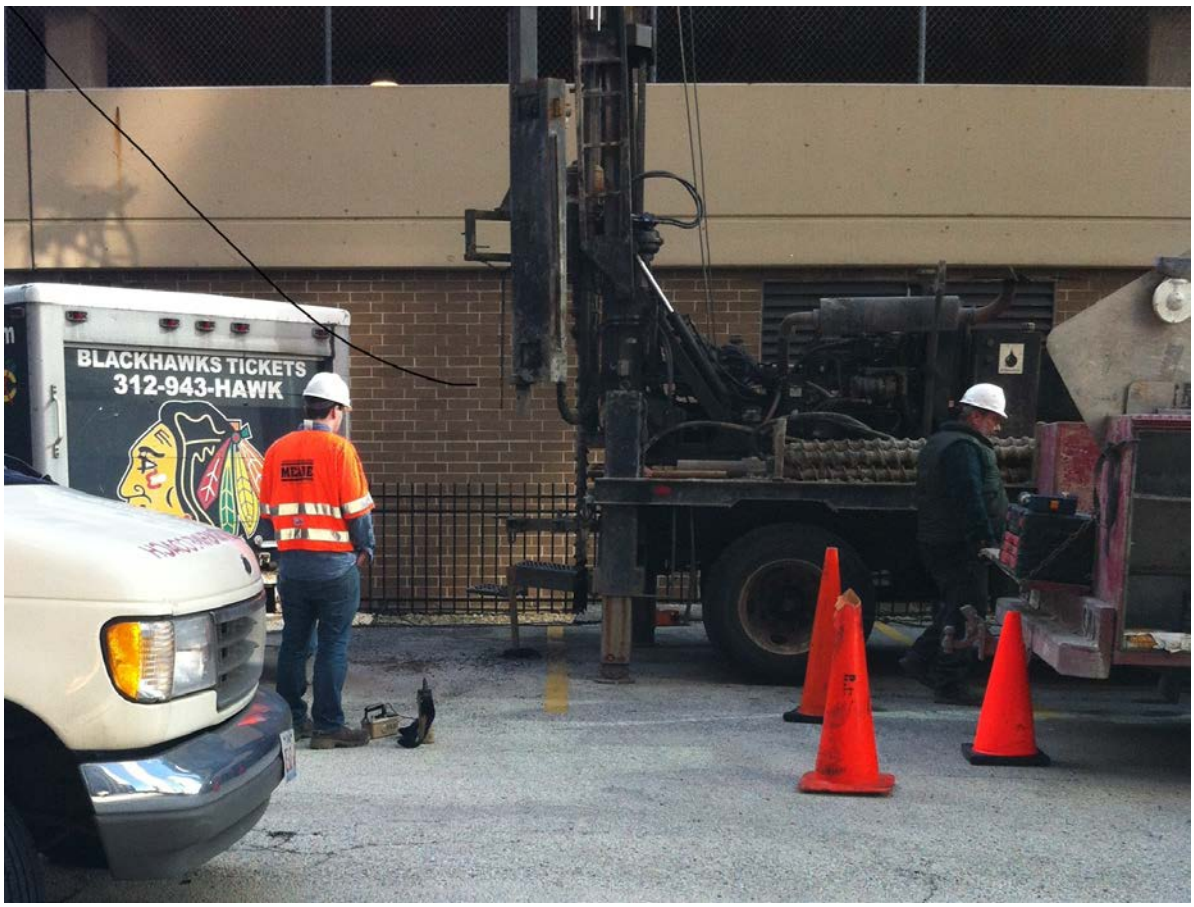
410 East Grand Ave
Downhole & Spoon Measurements
Downhole Ludlum 2200 S/N 36762, NaI Probe S/N PR159812 (unshielded)
Spoon: Ludlum 193 S/N 149080, NaI Probe S/N PR159705 (shielded)

	Hole # :										
	BH- 4	BH-2		BH-5		BH-6		BH-3		BH-1	
Depth:	**1 (spoon)**	**2 (downhole)**	**2 (spoon)**	**3 (downhole)**	**3 (spoon)**	**4 (downhole)**	**4 (spoon)**	**5 (downhole)**	**5 (spoon)**	**6 (downhole)**	**6 (spoon)**
0 ft.	2600	3825	3000	2611	2200	3677	2800	2612	2000	2776	2000
1 ft.	2300	8326	2200	6481	2000	3455	2200	3257	1600	5036	1600
2 ft	2300	7074	2000	7772	2100	6979	2300	8527	1600	6137	1700
3 ft.	2200	6711	2000	7826	2100	10606	2800	9328	1700	7212	1600
4 ft.	2300	7000	2300	5753	2100	9492	2600	7682	1700	7380	1600
5 ft.	2000	6808	2300	4475	2000	9529	2600	9115	2000	7221	1400
6 ft.	2000	6630	2000	4973	2000	7421	2600	9961	2000	6695	1400
7 ft.	2000	6554	2300	5043	1900	5958	2300	6956	2000	6807	1300
8 ft.	2000	6084	2300	4649	1700	6656	2300		1600	6042	1000
9 ft.	2000	7064	2300	4921	1800	4906	2200		1600	6229	1600
10 ft.	2200	7878	2200	5227	1900		2200		1600	5305	1600
11 ft.	2300		2200	5513	2000		2300		2000	6186	1400
12 ft.	2600		2300	3915	2000		2300		1700	8378	2000
13 ft.	2600		2300		1600		2400		2000	5666	1700
14 ft.	2600		2600		1700		2300		1700	5628	1800
15 ft.	2100		2600		1700		2200		2000		1700
16 ft.	2200		2300		1700		1600		1600		1600
17 ft.	2300		2200		1600		1600				1600
18 ft.	2200		2200		1700						
19 ft.	2100		2000		1800						
20 ft.	2100		2000		2600						

*The depth for all spoon measurements is approximate

Appendix C

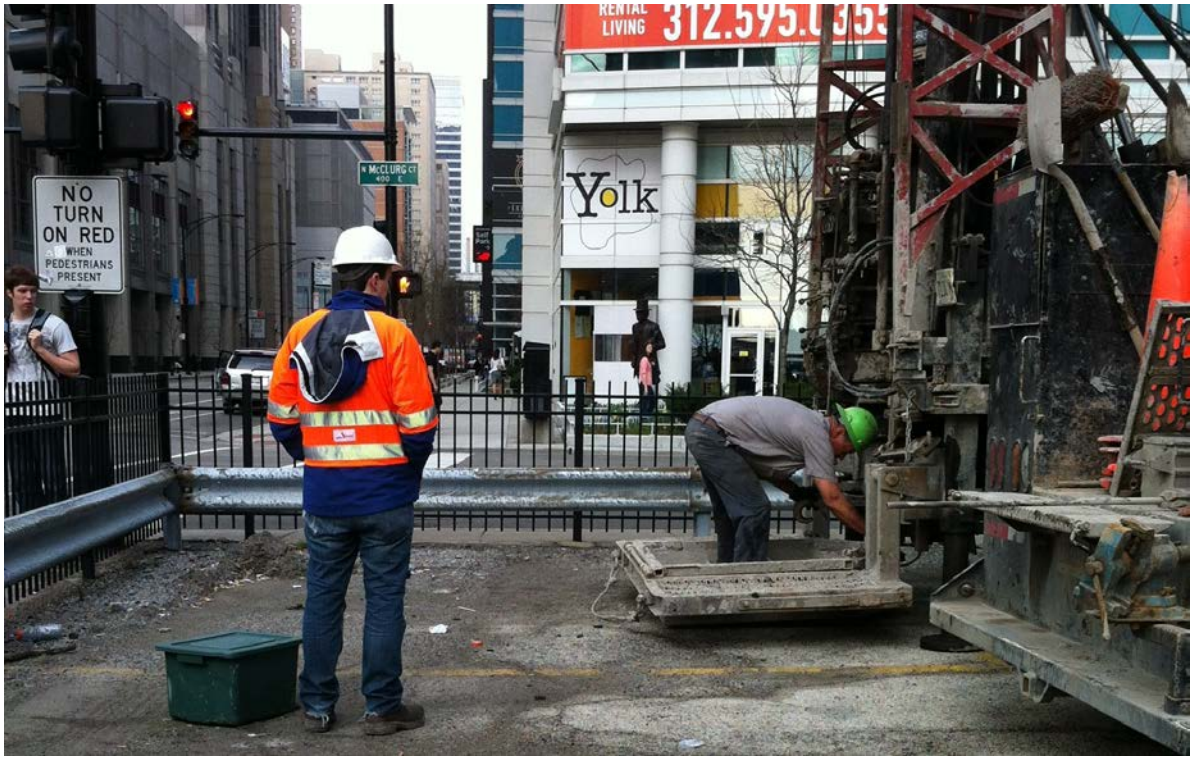
Survey Photo Summary



Photograph 1: BH-4 looking east.

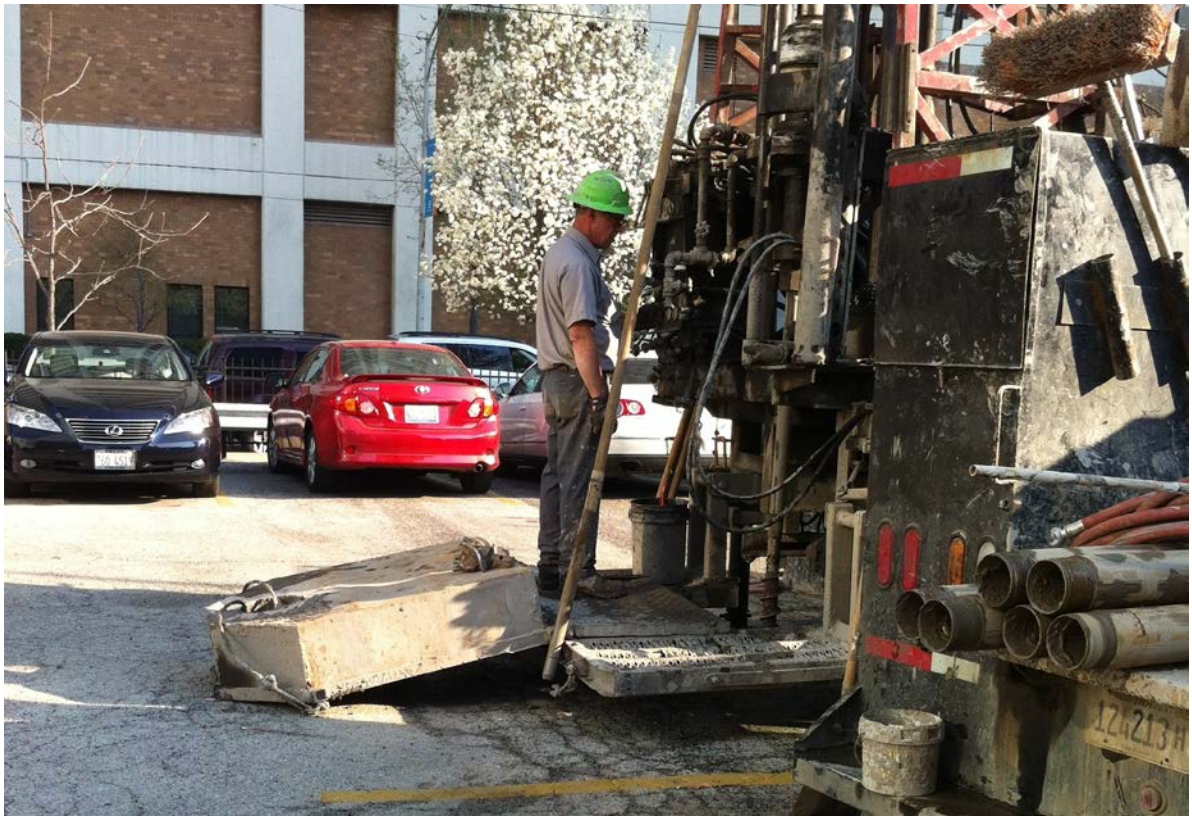
Photograph 2: BH-2. Typical downhole survey using 3” PVC pipe to maintain borehole.

Photograph 3: BH-2 looking northeast. Completing downhole survey.



Photograph 4: BH-5 looking west at corner of Grand Avenue and McClurg Street.

Photograph 5: BH-6 looking west. A 1 foot thick concrete structure encountered at 2 feet below ground surface (bgs). Soil sample collected for laboratory analysis collected beneath the concrete at 3 feet bgs.



Photograph 6: BH-1 looking north at Ohio Street.

Photograph 7: Picture of typical fill materials: clay, stone, wood, cinders, slag, and black sand.

Appendix D

Soil Sample Laboratory Analytical Results

Brief Description of the Measurement of Thorium in the Soil:

Thorium is the radioactive isotope of concern from the Lindsey Light II site. Gas mantles were manufactured from processed ore that contains natural levels of thorium as well as natural levels of uranium. Natural decay of thorium and uranium parent isotopes results in stronger radioactivity emitters known as daughter isotopes such as radium (Ra-228 and Ra-228). Radium decays further into daughter and granddaughter isotopes. This decay is referred to as the decay chain, for either uranium or thorium.

Radium is of concern given it high level of radioactivity. And in the environment, radium and its salts are soluble in water. As a result, groundwater in areas where concentrations of radium are high in surrounding bedrock typically has relatively high radium content. Radium emits several different kinds of radiation, in particular, alpha and gamma radiation, where gamma radiation is of most concern. Alpha radiation is only a concern if radium is taken into the body through inhalation or ingestion because it cannot penetrate through all the layers of skin. Gamma radiation, or rays, can expose individuals even at a distance and will penetrate and pass through the body. As a result, radium in the ground, for example, can expose individuals externally to gamma rays or be inhaled or ingested with contaminated food or water. The greatest health risk from radium in the environment, however, is actually its decay product radon, which can collect in buildings.

Measuring radium and essentially thorium, assumes that equilibrium has occurred between decay isotopes and parent isotope. Because the half-life of thorium and radium are greater than several years which is difficult to directly measure, short half-life daughter isotopes with half-lifes of seconds to hours are measure with gamma spectroscopy over a specified period of time. The results are then used to determine the levels of radium in the soil sample.

The gamma spectroscopy results for the 410 E, Grand Avenue site, Chicago were:

Radium-226: 0.371 pCi/g
Radium-228: 0.400 pCi/g

Where the granddaughter isotopes, Pb-214 & Bi-214 (the average of the sum) are being used as a surrogate for Ra-226, and Ac-228 is being used as a surrogate for Ra-228.

Potassium-40 (K-40) was directly measured at 9.27 pCi/g. K-40 is considered a naturally occurring radioactive material (NORM) and is usually not considered in the evaluation against the U.S. EPA action limit.

ORTEC g v - i (1215) Env32 G53W4.22 21-MAR-2012 16:05:14
RSSI Spectrum name: G120124.An1

Sample description
G120124 Gaiatech 410 E. Grand Hole 4 (3-5 ft), 666.7g

Spectrum Filename: H:\GammaVision\User\Spectra\G120124.An1

***** S U M M A R Y O F N U C L I D E S I N S A M P L E *****

Nuclide	Activity uCi/g	Time of Count Uncertainty Counting	1 Sigma Total
PB-214	3.50E-07	8.72E+00%	9.25E+00%
PB-212	2.45E-07	7.81E+00%	8.50E+00%
BI-212 #	6.71E-07	2.55E+01%	2.56E+01%
AC-228	4.00E-07	1.43E+01%	1.45E+01%
Tl-210 <	5.45E-09		
TL-208	8.55E-08	2.01E+01%	2.02E+01%
K-40	9.27E-06	3.92E+00%	4.51E+00%
BI-214	3.91E-07	8.37E+00%	8.68E+00%

- All peaks for activity calculation had bad shape.
* - Activity omitted from total
& - Activity omitted from total and all peaks had bad shape.
< - MDA value printed.
A - Activity printed, but activity < MDA.
B - Activity < MDA and failed test.
C - Area < Critical level.
F - Failed fraction or key line test.
H - Halflife limit exceeded

---------- S U M M A R Y ----------

Total Activity (277.3 to 1909.2 keV) 1.15E-05 uCi/g

This section based on library: 1001a.Lib

ORTEC g v - i (1215) Env32 G53W4.22 21-MAR-2012 16:05:14
RSSI Spectrum name: G120124.An1

Sample description
G120124 Gaiatech 410 E. Grand Hole 4 (3-5 ft), 666.7g

Spectrum Filename: H:\GammaVision\User\Spectra\G120124.An1

***** S U M M A R Y O F L I B R A R Y P E A K U S A G E *****

Nuclide Name	Code	Average Activity uCi/g	Peak Energy keV	Peak Activity uCi/g	Code	MDA Value uCi/g	COMMENTS
PB-214	N	3.50E-07					
			351.93	3.51E-07	*(P	1.88E-08	7.59E+00 G
			295.22	3.40E-07	(P	3.27E-08	9.68E+00 G
			241.99	3.70E-07	(P	9.25E-08	2.37E+01 G
			3 of 3 peaks found				
PB-212	N	2.45E-07					
			238.63	2.45E-07	(P	1.58E-08	7.04E+00 G
			300.09	6.28E-07	& P	2.01E-07	3.51E+01 G
			2 of 2 peaks found				
BI-212	N	6.71E-07					
			727.33	6.71E-07	?(P	1.06E-07	2.15E+01 G
			1 of 4 peaks found				
AC-228	N	4.00E-07					
			911.20	4.00E-07	(P	4.26E-08	1.47E+01 G
			968.97	4.18E-07	?(P	5.90E-08	1.87E+01 G
			338.32	3.58E-07	(P	5.63E-08	2.16E+01 G
			964.77	7.97E-07	+ P	2.33E-07	2.71E+01 G
			463.00	4.38E-07	&(P	1.34E-07	3.55E+01 G
			5 of 5 peaks found				
TL-208	N	8.55E-08					
			583.19	8.55E-08	(P	1.08E-08	1.56E+01 G
			510.77	3.52E-07	+ P	5.21E-08	1.38E+01 G
			860.58	1.47E-07	+ P	6.66E-08	2.98E+01 G
			3 of 5 peaks found				
K-40	N	9.27E-06					
			1460.82	9.27E-06	(P	2.26E-07	3.18E+00 G
			1 of 1 peaks found				
BI-214	N	3.91E-07					
			609.32	3.84E-07	*(P	1.93E-08	7.02E+00 G
			1764.49	5.06E-07	+ P	1.17E-07	1.09E+01 G
			1120.29	4.13E-07	(P	5.90E-08	1.47E+01 G
			1238.12	6.63E-07	+ P	2.62E-07	3.56E+01 G
			768.36	1.18E-06	+ P	2.18E-07	1.50E+01 G
			5 of 5 peaks found				

(- This peak used in the nuclide activity average.

* - Peak is too wide, but only one peak in library.
! - Peak is part of a multiplet and this area went
negative during deconvolution.
? - Peak is too narrow.
@ - Peak is too wide at FW25M, but ok at FWHM.
% - Peak fails sensitivity test.
$ - Peak identified, but first peak of this nuclide
failed one or more qualification tests.
+ - Peak activity higher than counting uncertainty range.

Sample description
G120124 Gaiatech 410 E. Grand Hole 4 (3-5 ft), 666.7g

Spectrum Filename: H:\GammaVision\User\Spectra\G120124.An1

- \- - Peak activity lower than counting uncertainty range.
- = - Peak outside analysis energy range.
- & - Calculated peak centroid is not close enough to the library energy centroid for positive identification.
- P - Peakbackground subtraction
- } - Peak is too close to another for the activity to be found directly.

Nuclide Codes:	Peak Codes:
T - Thermal Neutron Activation	G - Gamma Ray
F - Fast Neutron Activation	X - X-Ray
I - Fission Product	P - Positron Decay
N - Naturally Occurring Isotope	S - Single-Escape
P - Photon Reaction	D - Double-Escape
C - Charged Particle Reaction	K - Key Line
M - No MDA Calculation	A - Not in Average
R - Coincidence Corrected	C - Coincidence Peak
H - Halflife limit exceeded	

- -

This section based on library: 1001a.Lib

ORTEC g v - i (1215) Env32 G53W4.22 21-MAR-2012 16:05:14
RSSI Spectrum name: G120124.An1

Sample description
G120124 Gaiatech 410 E. Grand Hole 4 (3-5 ft), 666.7g

Spectrum Filename: H:\GammaVision\User\Spectra\G120124.An1

********** U N I D E N T I F I E D P E A K S U M M A R Y **********

Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 1 Sigma %	FWHM keV	Suspected Nuclide	
140.78	39.15	157.	126.	0.035	20.56	1.083	-	s
293.53	74.73	363.	208.	0.058	14.69	1.135	-	D
302.72	76.87	494.	189.	0.052	18.20	1.136	-	D
402.21	100.23	184.	29.	0.008	73.82	0.543	-	c
500.29	123.14	251.	101.	0.028	28.87	0.374	-	s
524.86	128.88	293.	91.	0.025	33.49	0.497	-	s
547.46	134.16	362.	53.	0.015	66.53	0.436	-	s
706.35	171.28	167.	30.	0.008	67.50	0.509	-	s
769.54	186.04	374.	183.	0.051	26.34	0.506	-	s
983.20	235.93	166.	30.	0.008	62.58	1.187	-	D
2272.33	537.12	27.	9.	0.002	97.18	0.450	-	sc
3727.09	877.02	7.	13.	0.004	40.82	0.403	-	sM

s - Peak fails shape tests.
D - Peak area deconvoluted.
L - Peak written from unknown list.
C - Area < Critical level.
M - Peak is close to a library peak.

This section based on library: 1001a.Lib

```
     ORTEC g v - i (1215) Env32  G53W4.22  21-MAR-2012 16:05:14
RSSI                           Spectrum name: G120124.An1

Sample description
     G120124 Gaiatech 410 E. Grand Hole 4 (3-5 ft), 666.7g


Spectrum Filename: H:\GammaVision\User\Spectra\G120124.An1


Acquisition information
       Start time:                21-Mar-2012 13:16:44
       Live time:               3600
       Real time:               3603
       Dead time:                  0.09 %
       Detector ID:                   1

Detector system
     USER-802B915354 MCB 9


Calibration
       Filename:                  G120124.An1
     01-24-12 calibration


       Energy Calibration
            Created:              21-Mar-2012 16:00:43
            Zero offset:          6.267 keV
            Gain:                 0.234 keV/channel
            Quadratic:            6.862E-09 keV/channel^2

       Efficiency Calibration
            Created:              24-Jan-2012 10:40:57
            Type:                 Polynomial
            Uncertainty:          0.353 %
            Coefficients:        -0.140148  -4.969891   0.856404
                                 -0.125295   0.007713  -0.000191

Library Files
       Main analysis library:     1001a.Lib
       Library Match Width:       0.500
       Peak stripping:            Library based

Analysis parameters
       Analysis engine:           Env32   G53W4.22
       Start channel:            20 (    10.94keV )
       Stop channel:           8144 (  1909.18keV )
       Peak rejection level:    100.000%
       Peak search sensitivity:   2
       Sample Size:               6.6670E+02
       Activity scaling factor:   1.0000E+00/(  1.0000E+00*  6.6670E+02) =
                                  1.4999E-03
       Detection limit method:    Traditional ORTEC method
       Random error:              1.0000000E+00
       Systematic error:          1.0000000E+00
       Fraction Limit:           10.000%
       Background width:          best method (based on spectrum).
       Half lives decay limit:   12.000
       Activity range factor:     2.000
       Min. step backg. energy    0.000
       Multiplet shift channel    2.000

Corrections                         Status          Comments
       Decay correct to date:        NO
       Decay during acquisition:     NO
```

ORTEC g v - i (1215) Env32 G53W4.22 21-MAR-2012 16:05:14
RSSI Spectrum name: G120124.An1

Sample description
G120124 Gaiatech 410 E. Grand Hole 4 (3-5 ft), 666.7g

Spectrum Filename: H:\GammaVision\User\Spectra\G120124.An1

Decay during collection:	NO	
True coincidence correction:	NO	
Peaked background correction:	YES	10_12_30 30%.Pbc 30-Dec-2010 10:17:12
Absorption (Internal):	NO	
Geometry correction:	NO	
Random summing:	NO	

total peaks alloc. 16 cutoff 20.00000 %
Energy Calibration
Normalized diff: 0.0803

Laboratory: RSSI